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EXAMINER

COSTIN, JEREMY M

ART UNIT	PAPER NUMBER
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2465

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/551,592	Applicant(s) FREZZOLINI, ALEANDRO	
	Examiner JEREMY COSTIN	Art Unit 2465	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,33-35,64-66 and 85-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,33-35,64-66 and 85-95 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/24/2010 has been entered.

Claims 1-3, 33-35, 64-66, and 85-95 have been examined and are pending.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:
It does not identify the citizenship of each inventor.

Specification

The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

The disclosure and the claim set are objected to because of the following informalities: The specification and claim set include either underline text and/or deletion of text, which is confusing and ambiguous. The applicant should submit a corrected specification and claim set which introduces no new matter.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 33-35, 64-66, and 85-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent Application 4,692,761 to Robinton in view of European Patent Application EP 0852419 to Liberman and US Patent Application Publication 2003/0097482 to DeHart et al (herein referred to as Dehart) and US Patent Application Publication 2003/0103521 to Raphaeli et al. (herein referred to as Raphaeli).

Regarding claim 1, Robinton discloses a communication method via a power line communication channel between a collecting unit (**fig. 2, 24, col. 7, lines 61-63, master unit 24**) and a plurality of control devices (**fig. 2, 26(n), col. 7, lines 61-63, remote units**), each of which is associated with at least an electrical device (**col.6, lines 67-68,**

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power meter), via a communication channel (**fig. 3, power line 32**), wherein messages are exchanged between said collecting unit and said control devices (**Abstract, The system includes two or more remote units and a master unit, each having an associated address, which are connected to the network. The remote units are each capable of initiating a down link message sequence wherein a data package containing data, such as data relating to power consumption, is transferred from one of the remote units to the master unit.**), each of said messages containing at least: a progressive message number (**Abstract, information which indicates the number of message transmissions required to transfer a data package from the transmitting unit to the master unit**); an addressee identification number (**col. 8, lines 67-68, the message will contain an Intermediate Destination Address and Intermediate Source address**); a portion of informative content and/or executable commands (**col. 8, line 67, meter data**); wherein a specific identification number, is assigned to each control device (**col. 9, lines 1-2, i.e. each remote station has an assigned address for routing purposes**), said messages being addressable selectively to a specific control device via said addressee identification number (**fig. 2, col. 8, lines 19-22, Intermediate remote unit 26f will then store and forward the data package in the message to its preferred down link node address, which is the address of the master unit in this instance.**); wherein when a control device receives a message containing an addressee identification number differing from its own identification number (**fig. 2, col. 8, lines 19-22, Intermediate remote unit 26f will then store and forward the data package in the message to its preferred down link**

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node address, which is the address of the master unit in this instance.), after a given delay interval said control device generates and transmits on said channel at least one echo of said message **(col. 9, lines 7-9, Accordingly, unit 26d will determine that the meter data are to be stored and forwarded in the down link direction.).** He does not completely discuss at least one echo of said message that is not addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless a reply to said message was received from the control device to which said message was addressed, and wherein said control device compares said message with pre established criteria and transmits said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations of echoes of a given message, which was well known within the field of endeavor at the time of the invention.

Liberman teaches at least one echo of said message that is not addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless a reply to said message was received from the control device to which said message was addressed **(page 4, lines 1—12, 4. Node 5 receives the replies of 1 & 2, storing the last replying node. Nodes 6, 7 receive the reply of 3. The nodes wait for the burst time and when it comes they transmit the burst log-on message via the received routes: node 5 via node 2, nodes 6 & 7 via node 3. Thus the reply is equivalent to an echo and the reply is only addressed to the CU, not the remaining RUs.).** It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the steps discussed by Liberman into that

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disclosed by Robinton as an improved or alternative discovery process implemented within a PLC network (**Lieberman, page 2, lines 5-6, the invention relates to automatic mapping and routing optimization of a communication between a Central Unit and Remote Nodes under hard and changing communication conditions.**).

DeHart describes said control device generates and transmits on said channel at least one echo of said message unless a reply to said message was received from the control device to which said message was addressed (**para [0022], Each attached remote device will attempt to answer. As each device answers, the remote checks for a response from other device on the two-wire interface. If it detects a response from another device, it will not respond or break off response to the command.**), which would have been obvious to implement into the communication system disclosed by Robinton as a discovery process for each node connected within the network (**DeHart, para [0022], This capability is uniquely used to automatically determine the components and functions currently connected to the network.**).

Raphaeli discusses wherein said control device compares said message with pre established criteria and transmits said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations of echoes of a given message (**para [0256], A flow diagram illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254,**

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256). This step is repeated MAX_RTS_Retries times.), which would have been obvious to one of ordinary skill to implement as a method to prevent unlimited echoes of a given message as well as a method detect a failure within the network **(Raphaeli, para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260).).**

Regarding claim 2, Robinton in view of Liberman and DeHart and Raphaeli teaches the method as claimed in claim 1, wherein the control device that generated an echo of the message received and addressed to a different control device **(Robinton, col. 8, lines 22-26, It can be seen that the data package transmitted in the message by remote unit 26b must be stored and forwarded by four intermediate remote units 26c, 26d, 26e and 26f, respectively, in order to reach the master unit.),** temporarily stores identifying information of said message and does not generate subsequent echoes of said message while the identifying information remains stored **(Robinton, col. 8, lines 63-67 and col. 9, lines 1-9, Assuming that remote unit 26c has transmitted a message containing a data package originated by the remote unit, the message will be directed to remote unit 26d, since that remote unit is presently preferred. In addition to the meter data, the message will contain an Intermediate Destination Address, which is the address of remote unit 26d and an Intermediate Source Address, which is the address of unit 26c. An additional address will be included indicating that unit 26c is the source of the data package**

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in the message. The message will further contain information indicating that the message is a down link message, therefore, the master unit is the final destination. Accordingly, unit 26d will determine that the meter data are to be stored and forwarded in the down link direction.).

Regarding claim 3, Robinton in view of Liberman and DeHart and Raphaeli teaches the method as claimed in claim 2, wherein each control device stores the identifying information of messages of which it has generated an echo in a temporary list containing identifying information of a predetermined maximum number of messages **(Robinton, col. 9, lines 51-54, Unit 26f will use the previously-stored Intermediate Source Address as the Intermediate Destination Address of the message to be transmitted. The final destination address of the received message will be used to identify the stored up link address.).**

Regarding claim 33, Robinton teaches a system comprising a collecting unit **(col. 12, line 34, master unit)** including at least a processor **(fig. 3, CPU 36)**, a memory and a transmission and reception device **(fig. 3, 30 and 34)**, and a plurality of control devices **(fig. 2, 26(n))**, each of which comprises at least a processor, a memory, and a transmission and reception device **(see fig. 3,)** and is interfaced with at least an electrical device **(col. 12, lines 63-65, from external sources such as electronic power meter 46)**, said collecting unit and said control devices being connected to one another via a power line communication channel **(fig. 3, power line 32)**, wherein the

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collecting unit and the control devices are programmed to exchange messages between said collecting unit and said control devices, each of which contains at least: a progressive message number **(Abstract, information which indicates the number of message transmissions required to transfer a data package from the transmitting unit to the master unit)**; an addressee identification number **(col. 8, lines 67-68, the message will contain an Intermediate Destination Address and Intermediate Source address)**; a portion of information content and/or executable commands **(col. 8, line 67, meter data)**; wherein each control device is assigned its own identification number **(col. 9, lines 1-2, i.e. each remote station has an assigned address for routing purposes)**, said messages being addressable selectively to a specific control device via said addressee identification number **(fig. 2, col. 8, lines 19-22, Intermediate remote unit 26f will then store and forward the data package in the message to its preferred down link node address, which is the address of the master unit in this instance.)**; and wherein when a control device (7X) receives a message containing an addressee identification number differing from its own identification number **(fig. 2, col. 8, lines 19-22, Intermediate remote unit 26f will then store and forward the data package in the message to its preferred down link node address, which is the address of the master unit in this instance.)**, after a given delay, interval said control device generates and transmits on said channel at least one echo of said message **(col. 9, lines 7-9, Accordingly, unit 26d will determine that the meter data are to be stored and forwarded in the down link direction.)**. He does not completely discuss at least one echo of said message that is

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not addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless a reply to said message has already been received from the control device to which said message was addressed, and wherein said control device compares said message with pre-established criteria and transmits said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations-of echoes of a given message, which was well known within the field of endeavor at the time of the invention.

Liberman teaches discuss at least one echo of said message that is not addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless a reply to said message has already been received from the control device **(page 4, lines 1—12, 4. Node 5 receives the replies of 1 & 2, storing the last replying node. Nodes 6, 7 receive the reply of 3. The nodes wait for the burst time and when it comes they transmit the burst log-on message via the received routes: node 5 via node 2, nodes 6 & 7 via node 3. Thus the reply is equivalent to an echo and the reply is only addressed to the CU, not the remaining RUs.)**. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the steps discussed by Liberman into that disclosed by Robinton as an improved or alternative discovery process implemented within a PLC network **(Liberman, page 2, lines 5-6, he invention relates to automatic mapping and routing optimization of a communication between a Central Unit and Remote Nodes under hard and changing communication conditions.)**.

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DeHart describes said control device generates and transmits on said channel at least one echo of said message unless a reply to said message has already been received from the control device to which said message was addressed (**para [0022], Each attached remote device will attempt to answer. As each device answers, the remote checks for a response from other device on the two-wire interface. If it detects a response from another device, it will not respond or break off response to the command.**), which would have been obvious to implement into the communication system disclosed by Robinton as a discovery process for each node connected within the network (**DeHart, para [0022], This capability is uniquely used to automatically determine the components and functions currently connected to the network.**).

Raphaeli teaches wherein said control device compares said message with pre-established criteria and transmits said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations-of echoes of a given message (**para [0256], A flow diagram illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_ Retries times.**), which would have been obvious to one of ordinary skill to implement as a method to prevent unlimited echoes of a given message as well as a method detect a failure within the network (**Raphaeli,**

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para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260).).

Regarding claim 34, Robinton in view of Liberman and DeHart and Raphaeli teaches a system as claimed in claim 33, wherein the control device that generated an echo of the message received and addressed to a different control device **(Robinton, col. 8, lines 22-26, It can be seen that the data package transmitted in the message by remote unit 26b must be stored and forwarded by four intermediate remote units 26c, 26d, 26e and 26f, respectively, in order to reach the master unit.)** is programmed to temporarily store identifying information of said message and does not generate subsequent echoes of said message while the identifying information remains stored **(Robinton, col. 8, lines 63-67 and col. 9, lines 1-9, Assuming that remote unit 26c has transmitted a message containing a data package originated by the remote unit, the message will be directed to remote unit 26d, since that remote unit is presently preferred. In addition to the meter data, the message will contain an Intermediate Destination Address, which is the address of remote unit 26d and an Intermediate Source Address, which is the address of unit 26c. An additional address will be included indicating that unit 26c is the source of the data package in the message. The message will further contain information indicating that the message is a down link message, therefore, the master unit is the final destination. Accordingly, unit 26d will determine that the meter data are to be**

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stored and forwarded in the down link direction.).

Regarding claim 35, Robinton in view of Liberman and DeHart and Raphaeli teaches a system as claimed in claim 34, wherein each control device comprises a memory, and is programmed to store the identifying information of messages it has generated an echo of in a temporary list containing identifying information of a predetermined maximum number of messages **(Robinton, col. 9, lines 51-54, Unit 26f will use the previously-stored Intermediate Source Address as the Intermediate Destination Address of the message to be transmitted. The final destination address of the received message will be used to identify the stored up link address.).**

Regarding claim 64, Robinton teaches a control device **(col. 12, line 34, remote unit)** for electrical devices comprising at least a processor **(fig. 3, CPU 36)**, a memory (11), a connection to a corresponding electrical device, and a device for transmission and reception **(see fig. 3, 30 and 34)** on a power line communication channel **(fig. 3, power line 32)** for the reception and the transmission of information and/or commands **(col. 8, line 67, meter data)**, to which an identification number is assigned, said control device being programmed to receive and transmit messages via said communication channel, each of which contains at least: a progressive message number **(Abstract, information which indicates the number of message transmissions required to transfer a data package from the transmitting unit to the master unit);** an addressee identification number **(col. 8, lines 67-68, the message will contain an Intermediate Destination**

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Address and Intermediate Source address); a portion of informative content and/or executable commands (**col. 8, line67, meter data**); and is programmed so that when it receives a message containing an addressee identification number differing from its own identification number (**fig. 2, col. 8, lines 19-22, Intermediate remote unit 26f will then store and forward the data package in the message to its preferred down link node address, which is the address of the master unit in this instance.**), from said channel via its own transmission and reception device, it transmits at least an echo of the message received on said channel after a given delay interval (**col. 9, lines 7-9, Accordingly, unit 26d will determine that the meter data are to be stored and forwarded in the down link direction.**), unless it receives on said channel a reply to said message, a routine being provided to prevent unlimited generations of echoes of a given message (**col. 9, lines 33-36, Upon receipt of the final down link message of the sequence, master unit 24 is adapted to initiate an up link message sequence which will include the transmission of one or more up link messages.**). Robinton does not completely discuss the echo not being addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless it receives on said channel a reply to said message, said delay interval specific to said control device so as to prevent overlapping of messages on said communication channel, and said control device programmed to compare said message with pre-established criteria and transmit said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations of echoes of a

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given message, which was well known within the field of endeavor at the time of the invention.

Liberman teaches the echo not being addressed to a specific intermediate control device on said channel or a next control device along a specific message route, unless it receives on said channel a reply to said message (**page 4, lines 1—12, 4. Node 5 receives the replies of 1 & 2, storing the last replying node. Nodes 6, 7 receive the reply of 3. The nodes wait for the burst time and when it comes they transmit the burst log-on message via the received routes: node 5 via node 2, nodes 6 & 7 via node 3. Thus the reply is equivalent to an echo and the reply is only addressed to the CU, not the remaining RUs.**). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the steps discussed by Liberman into that disclosed by Robinton as an improved or alternative discovery process implemented within a PLC network (**Liberman, page 2, lines 5-6, he invention relates to automatic mapping and routing optimization of a communication between a Central Unit and Remote Nodes under hard and changing communication conditions.**).

DeHart describes said delay interval specific to said control device so as to prevent overlapping of messages on said communication channel (**para [0022], Collision detection means for detecting multiple responses on the two-wire buss with each function backing off tee function's communication attempt until only one function continues to communicate, thus guaranteeing a response.**), which would have been obvious to one of ordinary skill in the art to implement into the disclosure of

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Robinton to improve the ability of the network to avoid data corruption associated with collisions on the network.

Raphaeli teaches and said control device programmed to compare said message with pre-established criteria and transmit said echo of said message upon determining that said message corresponds to said criteria, to prevent unlimited generations of echoes of a given message (**para [0256], A flow diagram illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_Retries times.**), which would have been obvious to one of ordinary skill to implement as a method to prevent unlimited echoes of a given message as well as a method detect a failure within the network (**Raphaeli, para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260).**).

Regarding claim 65, Robinton in view of Liberman and DeHart and Raphaeli teaches a control device as claimed in claim 64, programmed to temporarily store identifying information of each message of which it generates an echo (**Robinton, col. 8, lines 22-26, It can be seen that the data package transmitted in the message by remote unit 26b must be stored and forwarded by four intermediate remote units**

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26c, 26d, 26e and 26f, respectively, in order to reach the master unit.) and not to generate subsequent echoes of said message while the identifying information remains stored **(Robinton, col. 8, lines 63-67 and col. 9, lines 1-9, Assuming that remote unit 26c has transmitted a message containing a data package originated by the remote unit, the message will be directed to remote unit 26d, since that remote unit is presently preferred. In addition to the meter data, the message will contain an Intermediate Destination Address, which is the address of remote unit 26d and an Intermediate Source Address, which is the address of unit 26c. An additional address will be included indicating that unit 26c is the source of the data package in the message. The message will further contain information indicating that the message is a down link message, therefore, the master unit is the final destination. Accordingly, unit 26d will determine that the meter data are to be stored and forwarded in the down link direction.)**

Regarding claim 66, Robinton in view of Liberman and DeHart and Raphaeli teaches a control device as claimed in claim 65, programmed to store the identifying information of messages of which it generated an echo in a temporary list of identifying information relative to a maximum number of said messages **(Robinton, col. 9, lines 51-54, Unit 26f will use the previously-stored Intermediate Source Address as the Intermediate Destination Address of the message to be transmitted. The final destination address of the received message will be used to identify the stored up link address.)**

Regarding claim 85, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 1, each of said messages further containing a counter, and wherein a control device receiving a message containing an addressee identification number differing from its own identification number compares a value associated with said counter to a pre-established value and transmits said message when said value is above said pre-established value (**Raphaeli, fig. 23 steps 244 and 246, para [0256], illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_ Retries times.)**).

Regarding claim 86, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 85, wherein said control device receiving a message containing an addressee identification number differing from its own identification number decreases said value of said counter prior to transmitting said echo of said message (**Raphaeli, fig. 23 steps 244 and 246, para [0256], illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes**

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a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_Retries times.).

Regarding claim 87, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 86, wherein an initial value of said counter is equal to a total number of said plurality of control devices **(Raphaeli, para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260). The max number of retries is set within the system.).**

Regarding claim 88, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 1, wherein each control device transmits said echo of the message received with its own specific delay **(Robinton, col. 21, lines 56-60, As previously noted, network message collisions are reduced by causing selected remote units to temporarily refrain from transmitting. Many of the message types will indicate that such a transmit hold delay is required for certain units receiving the message.).**

Regarding claim 89, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 88, wherein the delay with which each control device transmits the echo of the message received is determined as a function of the identification number assigned to said control device **(Robinton, col. 21, lines 15-27,**

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variable transmit hold delay = HC (hop count) * message times. This assumes the identification number assigned is the hop count.).

Regarding claim 90, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 89, wherein said delay is equal to the duration of the message multiplied by the identification number of the respective control device that transmits the echo (**Robinton, col. 21, lines 15-27, variable transmit hold delay = HC (hop count) * message times. This assumes the identification number assigned is the hop count. And col. 21, lines 62-66, whether a transmit hold delay is required, and, if so, the duration of the delay. As set forth in Table 4, certain message types call for a fixed hold delay of one, two, three or four message times, with a message time in the present embodiment being approximately 1.3 seconds.).**

Regarding claim 91, Robinton in view of Liberman and DeHart and Raphaeli teaches a method as claimed in claim 90, wherein said collector unit emits messages addressed to specific control devices with a temporal interval above a maximum delay with which a previous message can be regenerated via echo by all of said plurality of control devices (**Robinton, col. 12, lines 16-23, The initiating message will typically include transmit hold delay information to be acted upon by other remote units. If unit 26i receives the message, the unit will refrain from transmitting on the network for a**

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period of time which is sufficiently long so as to permit the expected reply message to be received by originating unit 26b.).

Regarding claim 92, Robinton in view of Liberman and DeHart and Raphaeli teaches a system as claimed in claim 33, wherein each of said messages further contains a counter, and wherein each control device is programmed upon receiving a message containing an addressee identification number differing from its own identification to compare a value associated with said counter to a pre-established value, decrease said value of said counter when said counter value is above said pre-established value and subsequently transmit said message **(Raphaeli, fig. 23 steps 244 and 246, para [0256], illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_Retries times. And para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260).).**

Regarding claim 93, Robinton in view of Liberman and DeHart and Raphaeli teaches a system as claimed in claim 33, wherein each of said plurality of control devices is programmed to transmit said echo of the message received with its own specific delay

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determined as a function of the identification number assigned to said control device **(Robinton, col. 21, lines 15-27, variable transmit hold delay = HC (hop count) * message times. This assumes the identification number assigned is the hop count. And col. 21, lines 62-66, whether a transmit hold delay is required, and, if so, the duration of the delay. As set forth in Table 4, certain message types call for a fixed hold delay of one, two, three or four message times, with a message time in the present embodiment being approximately 1.3 seconds.)**, and wherein said collector unit is programmed to emit messages addressed to specific control devices with a temporal interval above a maximum delay with which a previous message can be regenerated via echo by all of said plurality of control devices **(Robinton, col. 12, lines 16-23, The initiating message will typically include transmit hold delay information to be acted upon by other remote units. If unit 26i receives the message, the unit will refrain from transmitting on the network for a period of time which is sufficiently long so as to permit the expected reply message to be received by originating unit 26b.)**.

Regarding claim 94, Robinton in view of Liberman and DeHart and Raphaeli teaches a control device as claimed in claim 64, each of said messages further containing a counter, and wherein said control device is programmed upon receiving a message containing an addressee identification number differing from its own identification to compare a value associated with said counter to a pre-established value, decrease said value of said counter when said counter value is above said pre established value and

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subsequently transmit said message (**Raphaeli, fig. 23 steps 244 and 246, para [0256], illustrating the RTS method of the present invention is shown in FIG. 23. The first step is to retransmit the reservation frame RTS_First_ retries times (steps 240, 242, 244, 246). If no response was received after RTS_First_ retries (step 246) the station randomizes a new backoff and retransmits the reservation frame (steps 248, 250, 252, 254, 256). This step is repeated MAX_RTS_Retries times. And para [0257], If no response was received after MAX_RTS_Retries (step 256) the source station transmits an RTS_Fail frame and invokes a new LA assignment process (steps 258, 260).).**

Regarding claim 95, Robinton in view of Liberman and DeHart and Raphaeli teaches a control device as claimed in claim 64, wherein said control device is programmed to transmit said echo of the message received with its own specific delay determined by multiplying said identification number associated with said control device by a duration of the message (**Robinton, col. 21, lines 15-27, variable transmit hold delay = HC (hop count) * message times. This assumes the identification number assigned is the hop count. And col. 21, lines 62-66, whether a transmit hold delay is required, and, if so, the duration of the delay. As set forth in Table 4, certain message types call for a fixed hold delay of one, two, three or four message times, with a message time in the present embodiment being approximately 1.3 seconds.**).

Response to Arguments

Applicant's arguments with respect to claims 1-3, 33-35, 64-66, and 85-95 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent Application Publication 2001/0024441 to Bateman et al. discloses a method for receiving power and data on the same physical link.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMY COSTIN whose telephone number is (571)270-3873. The examiner can normally be reached on m-f, 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patel Jay can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JEREMY COSTIN/
Examiner, Art Unit 2465

/Alpus H. Hsu/
Primary Examiner, Art Unit 2465